Interdisciplinary Engineering (Design & Innovation Emphasis)

Grand Valley State University 2020-21 Catalog in cooperation with Cornerstone University

MTH 201 Placement – 4 year Honors program

Secondary Admission Criteria

1) A GPA of 2.7 or above in the Engineering Foundation courses. Engineering Foundation courses are designated by an asterisk (*) on this guide.

2) Completion of each course in the Engineering Foundation with a grade of C (2.0) or above, with no more than one repeat.

3) Completion of preparation for placement in the cooperative engineering education course, EGR 289.

1st Semester Fall: 14 credits

*MTH 201	Calculus 1
*EGR 100	Introduction to Engineering
*EGR 111	Introduction to Engineering Graphics
*EGR 112	Applied Programming for Engineers
HNR 151	First Year Interdisciplinary Sequence 1
HNR 152	First Year Interdisciplinary Sequence 2

2nd Semester Winter: 16 credits

*MTH 202	Calculus 2
*PHY 230	Physics 1
*EGR 113	Introduction to CAD/CAM
HNR 153	First Year Interdisciplinary Sequence 3
HNR 154	First Year Interdisciplinary Sequence 4

Spring/Summer Semester: 10 credits

*MTH 203	Calculus 3
*CHM 115	Chemistry 1
*EGR 185	First-Year Engineering Design

3rd Semester Fall: 14-15 credits

*PHY 234 or 231	Physics 2
*STA 220	Statistical Modeling for Engineers
*EGR 220	Egr Measurement and Data Analysis
*EGR 209	Mechanics and Machines
*EGR 289	Engineering Co-op Preparation
IDS 101	**Creativity, Innovation and Problem Solving (Cornerstone)**

4th Semester Winter: 16 credits

*MTH 302	Linear Algebra and Differential Equations
*EGR 309	Machine Design 1
*EGR 250	Materials Science and Engineering
*EGR 214	Circuit Analysis 1

Spring/Summer Semester: 7 credits

EGR 290	Engineering Co-op 1
*EGR 226	Microcontroller Programming

5th Semester Fall: 15 credits

EGR 301	Analytical Tools for Product Design
EGR 345	Dynamic System Modeling and Control
EGR 367	Manufacturing Processes
MDA 112	**Design Drawing 1 (Cornerstone)**

Winter Semester: 6 credits

EGR 390	Engineering Co-op 2
INT 323	Design Thinking

6th Semester Spring/Summer: 13 credits

EGR 362	Thermal and Fluid Systems
ECO 210 **OR** 211	Economics
INT 310	Creativity
HNR 200	Campus/Community Engagement

Fall Semester: 6 credits

EGR 490	Engineering Co-op 3
IDS 313	**Thought & Design 2 (Cornerstone)**

7th Semester Winter: 13 credits

EGR 485	Senior Engineering Project 1
IDS 413	**Thought & Design 3 (Cornerstone)**
IDS 312	**Human Innovation (Cornerstone)**
Interdisciplinary Engineering Elective	
HNR 201	Live. Learn. Lead.

8th Semester Spring/Summer: 5 credits

EGR 486	Senior Engineering Project 2
HNR 350	Honors Integrative Seminar

It is important to meet with a professional advisor in the PCEC Advising Center on a regular basis. The PCEC Advising Center is located in 101 Eberhard Center. Please call 616-331-6025 or go online at www.gvsu.edu/pcec/advising to schedule an appointment.

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Major Notes

An emphasis area is required for the Interdisciplinary Engineering major. Emphasis areas include: Data Science, Design & Innovation, Engineering Management, Environmental Engineering, Mechatronics and Renewable Energy.

1) To declare this emphasis, login to MyBanner, select "Student Records" and then "Change Major."
2) Click on "Change Major 1" and select ***Interdisciplinary Engineering – Design and Innovation Emphasis***.
3) Click "Submit" and then "Change to New Program."
4) For the IE Elective, students may enroll in EGR 401 (Winter), EGR 403 (Winter) or EGR 405 (Spring/Summer). Course descriptions are listed in the GVSU Academic Catalog.

Honors

The Frederik Meijer Honors College and the School of Engineering have approved the following substitutions for the honors curriculum:

1) Together, EGR 100 and EGR 185 fulfill the HNR 251 requirement.
2) EGR 485 fulfills the HNR 401 requirement.
3) EGR 486 fulfills the HNR 499 requirement.
4) The completion of the honors curriculum will fulfill the engineering ethics requirement.

Students are encouraged to plan ahead and submit a proposal for how they plan to fulfill the HNR 200 requirement. All students must complete 3 credits of HNR 200 before graduation. It can be taken as a 1-credit, 2-credit, or 3-credit course. There are three options for fulfilling this honors requirement: **pre-approved activity**, **pre-approved course substitution**, or **an activity or course**. Please work with an honors advisor to determine the best fit for you.

Recommendations

It is strongly encouraged that students do not begin or break curriculum thread by taking courses at other institutions.

For example:
Taking MTH 201 equivalent elsewhere, then return to Grand Valley and continuing in the math thread with MTH 202.

PCEC Advisors

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